Claims

[c1]   A framework for use in Code Units development specially useful in Visual Programming development environments, the framework comprising: Code Units authoring engine; a plurality of Code Units definitions; a plurality of implementations for each Code Units definition; Code Units Visual representation engine; Domain specific Code Units Visual programming interfaces.

[c2]   The framework of claim 1 wherein user-defined Code Units' implementations are the high-level API of a programming domain.

[c3]   The framework of claim 1 wherein Code Units definitions have user-definable and assignable Visual representations and/or Model entities for use for either or both Visual Programming and/or Model based developments.

[c4]   The framework of claim 1 wherein user-defined (different) Domain dependent Code Units implementation (API) instances can comprise partly or in whole user-defined visually created program(s).

[c5]   The framework of claim 1 wherein sets of Code Units for different Domains can be (re)used and/or combined to

form the available "templates" for Visually creating programs encompassing different programming Domains.

[c6]   The framework of claim 1 wherein implemented Code Units can be visually extended and/or combined to provide new functionalities thereby, yielding new set(s) of Code Units.

[c7]   The framework of claim 1 wherein framework implementation facilitates Domain dependent Code Units authoring by providing the standard "contract" and relevant Authoring engine necessary for integrating support for the being authored Domain.

[c8]   The framework of claim 1 wherein framework facilitates some form of validation of visually created designs and programs providing visual designers and programmers a "before execution time" tool capability to debug and/or correct visual artifacts' Attributes or parameters and to synchronize to reflect changes done to the Code Units API.

[c9]   Framework has "extensible" instrumentation mechanism that facilitates (automatic) discovery of available Code Units from Applications, Binaries including code libraries and/or Code.

[c10]   The framework of claim 8 wherein the framework's in-

strumentation mechanism provides automatic discovery of available Code Units from Remote application(s).

[c11] The framework of claim 8 wherein the framework's instrumentation mechanism's Remote Code Units automatic discovery is extendible and/or customizable to support current and future different Standards and non-Standards based instrumentation protocols.

[c12] The framework of claim 8 wherein the framework's instrumentation mechanism provides automatic discovery of available Code Units from dynamically loaded Remote binaries and/or code libraries via Remote application(s).

[c13] The framework of claim 8 wherein the framework's instrumentation mechanism is fully or partially modifiable to support different instrumentation mechanisms and methods.

[c14] The framework of claim 8 wherein the framework's instrumentation mechanism is extend able to support different instrumentation mechanisms and methods.

[c15] Code Units implementations can appear in different programming languages and platforms, be of different formats or code structure per language and platform implementation.

[c16]   The framework of claim 14 wherein the framework provides mechanism to support integration of Code Units implementation(s) on different platform(s) and programming language(s) to the Visual and/or Model based development application(s).

[c17]   The framework of claim 14 wherein the framework provides mechanism to support user definable and customizable Visual representation of each item of the Code Units.